

having the anterior margin of the thorax entire between the anterior coxae, the underside of the head deeply excavated behind the mentum, and the lateral margins of the pronotum entire.

***Neogastrallus librinocens*, new species.**

Uniformly dark reddish brown (legs and antennae slightly paler), moderately shiny, sparsely clothed with short, recumbent, grayish pubescence. Head deeply sunk within the prothorax, the eyes partially covered in repose; front slightly convex, finely, densely granulose. Pronotum wider than long, narrower at apex than at base, widest near base; sides arcuately rounded when viewed from above; disk strongly, uniformly convex; surface rather densely granulose, the granules distinctly separated. Elytra twice as long as wide, subequal in width to thorax at base; sides nearly parallel anteriorly, slightly expanded behind the middle; apices separately broadly rounded; disk strongly convex; surface finely, uniformly, confluent ocellate-punctate; each elytron with a distinct stria along lateral margin, the stria obsolete toward apex. Body beneath finely, densely granulose, the sternum more or less ocellate-punctate. Length, 2.4 mm.; width, 1.2 mm.

Type locality.—Saint Leo, Pasco County, Fla.

Type and paratypes.—No. 52607, United States National Museum.

Described from nine specimens (one type). The adults together with live larvae were found in numbers infesting books received from the Saint Leo College on November 15, 1937.

EIGHT NEW SPECIES OF WEST INDIAN CHRYSOMELIDAE.

By DORIS H. BLAKE.

Five of the species here described were collected by P. J. Darlington during the summer of 1936, in the mountains of Oriente Province, Cuba. Two others from the Museum of Comparative Zoology collection were taken by W. M. Mann in Haiti, and the last is a species from the United States National Museum collection labelled as new by E. A. Schwarz some years ago.

***Chalcosicya rotunda*, n. sp.**

Fig. 7.

About 2 mm. long, broadly ovate, shining with a coppery lustre, sparsely and not regularly sprinkled with whitish scalelike hairs.

Head inserted well into the prothorax, with rounded occiput and front unbroken to the labrum except for a slight median depression on vertex; coarsely punctured, the intervals alutaceous, each puncture with a coarse whitish hair,

almost squamulose. Mouthparts reddish yellow. Antennal sockets large. Antennae about half the body length, two basal joints yellowish, rest yellowish or reddish brown; 1st and 2d joints longer and stouter than 3d-6th joints, 3d-6th joints slender and about equal in length, 7th-11th joints much stouter. Prothorax about twice as wide as long with arcuate sides and narrow margin; alutaceous but shining with a coppery lustre, distinctly but not very densely punctate, each puncture bearing a long white scalelike hair. Scutellum small, rounded and polished. Elytra with prominent humeri, moderately convex and smoothly rounded, without depressions, coarsely but not densely punctate, the punctures particularly near the suture and at apices suggestive of striation, the punctures below the humeri larger and deeper; pubescence consisting of rather scanty coarse white erectish hairs forming a pattern on elytra, the hairs not present on area between the humeri and suture and in the middle of the elytra; surface shining with coppery, often rosy lustre, not alutaceous. Body beneath dark, alutaceous but somewhat shining, with coarse white not very dense pubescence; mesosternum broad, very polished, without hairs, space between the anterior coxae broad and with coarse punctures and hairs; no emargination of episternum below head. Legs deep reddish brown with coppery glints on femora, conspicuously but not densely covered with white hairs. Femora not toothed, claws with a small inner tooth. Length 2-2.8 mm., width 1.3-1.8 mm.

Type.—male and 9 paratypes, U. S. N. M. Cat. No. 52307. Twelve paratypes in the Museum of Comparative Zoology, Type No. 23153.

Type locality.—Pico Turquino, Oriente Province, Cuba, alt. 3000-5000 ft., collected July 20, 1922, by S. C. Bruner and C. H. Ballou, and in June, 1936, by P. J. Darlington.

Remarks.—*C. rotunda* is about the size of *C. nana* but much less densely covered with hairs and with less dense elytral punctation. The pubescence also differs in not being closely appressed but rather erectish.

***Chalcosicya costata*, n. sp.**

Fig. 9.

Oblong oval, about 2.5 mm. long, of shining coppery color, covered with white, closely appressed coarse pubescence, each hair proceeding from a puncture, punctures much coarser on elytra than on head or prothorax, traces of two median ridges on elytra.

Head entirely brown, shining beneath the short white hairs; finely and not densely punctate. Front with a faint median depression, otherwise smooth. Antennal sockets large, antennae reddish brown and about half the length of body, first two and last five joints stouter than intermediate ones, 2d joint much longer than 3d, 3d-6th joints very slender and about equal. Prothorax a little over $1\frac{1}{2}$ times as wide as long, with narrow margin and arcuate sides, moderately densely and distinctly punctate with a short, closely appressed white hair from each puncture. Scutellum punctate and with one or two hairs. Elytra with well marked humeri and much coarser punctures than prothorax, punctures

confused; hairs short, appressed and not concealing the coppery lustre. Traces of two irregular median ridges more marked near base and not extending beyond apical narrowing. Body beneath and legs entirely deep reddish brown, coarsely punctate and with white, closely appressed pubescence. Anterior femora with a tiny tooth. Length 2.4–2.7 mm., width 1.5–1.7 mm.

Type.—male and 1 paratype U. S. N. M. Cat. No. 52308.

Type locality.—Nueva Gerona, Isle of Pines, collected by G. Lenk, May 31, 1912.

Remarks.—This species differs from *C. rotunda*, *nana* and *maestrensis* by having a small tooth on the anterior femora. Some species of *Metachroma* have a similar tooth. The faint irregular elytral ridging well distinguishes this species.

***Chalcosicya ditrichota*, n. sp.**

Fig. 10.

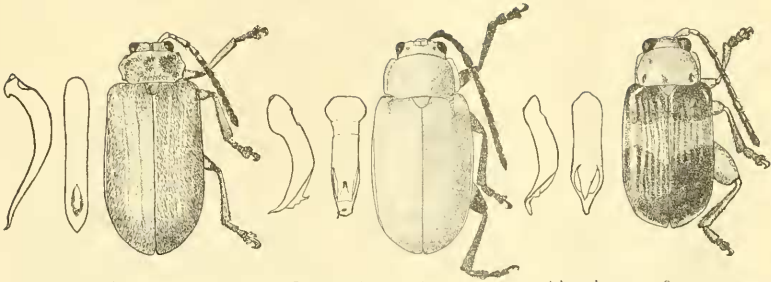
Oblong oval, about 3 mm. long, shining with a coppery, aeneous, or even bluish lustre and with a conspicuous but not dense coarse white pubescence intermixed on the upper surface with a finer and inconspicuous erectish dark pubescence; densely punctate.

Head lustrous beneath the coarse white pubescence that covers the upper part except the front, the front bare, showing dense, coarse punctation; upper part of head without grooves or prominences, a slight median vertical depression; mouth-parts reddish or yellowish brown. Antennal sockets large, antennae extending below humeri; first two and last five joints stouter than 3d–6th joints, which are slender and approximately equal; first two or three joints and 7th and sometimes 8th paler. Prothorax not quite twice as wide as long, with narrow margin and arcuate sides; surface shining, densely punctate and covered with coarse white hairs and finer dark hairs. Scutellum with a few punctures and sometimes a few hairs. Elytra with prominent humeri, lustrous, densely and more coarsely punctate than prothorax, not densely covered with an irregular coarse white pubescence forming a pattern and with an inconspicuous finer, longer and more erect dark pubescence. Body beneath and legs with dense white pubescence. Body dark, legs a little paler; sometimes yellowish; anterior femora with a tiny tooth. Length 2.2–3.4 mm., width 1.4–2 mm.

Type.—male and 8 paratypes in the Museum of Comparative Zoology, Type No. 23154.

Type locality.—Buenos Aires, Trinidad Mts., 2500–3500 ft., Cuba, collected May 8–14, 1936, by P. J. Darlington. Two other specimens were collected by Darlington, one at San Blas and vicinity, Trinidad Mts., alt. 1000–3000 ft., on May 9, 1936, the other on Pico Turquino at 5000–6000 ft, in June, 1936.

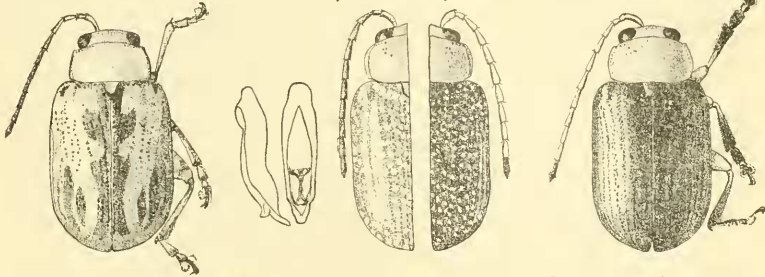
Remarks.—*C. ditrichota* is larger and more oval than *C. rotunda* or *nana* and is smaller and with longer pubescence than *C. maestrensis*. As in *C. costata*, the anterior femora are toothed. The presence of two kinds of pubescence is its most striking character.



1. *Galerucella immaculata*

2. *Disonycha darlingtoni*

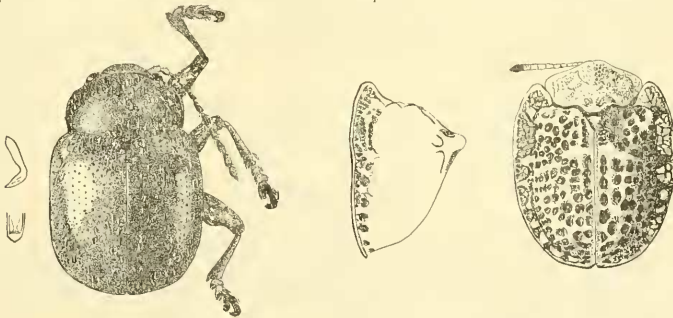
3. *Hemilactica fasciata*



4. *Blepharida haitiensis*

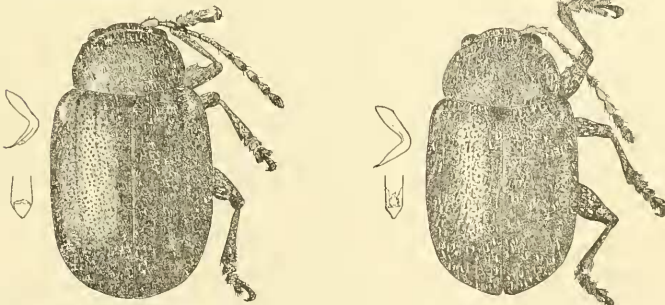
5. *B. irrorata* with spots

6. *B. irrorata* without spots



7. *Chalcoscicya rotunda*

8. *Paratrikona ovata*



9. *Chalcoscicya costata*

10. *Chalcoscicya diffrichota*

***Galerucella immaculata*, n. sp.**

Fig. 1.

Oblong oval, about 5 mm. long, pale yellow brown without trace of elytral markings, feet and last six antennal joints and apices of all but the basal dark brown.

Head pale with dark mouthparts and a dark median line down front; densely covered with pale appressed pubescence. Antennae not extending to the middle of the elytra, 2d joint half the length of 3d, which is the longest, joints 4-8 very gradually diminishing in length, all of them lightly pubescent; basal joint pale, joints 2-6 pale with dark brown apices, joints 7-11 dark. Prothorax twice as wide as long, widest a little before the middle, thence deeply incurved, a nodule at anterior and posterior angle; disk widely depressed on sides and with a smaller median depression; entirely pale, coarsely and shallowly punctate and covered with short, fine pubescence. Elytra much wider than prothorax, with prominent humeri, a faint transverse depression before middle and before apical narrowing; densely and rather coarsely punctate and covered with a very fine short pubescence; two median ridges more or less apparent from base to apical narrowing. Body beneath pale and finely pubescent. Legs pale with apices of femora, tibiae, and tarsi deeper brown. Length 5-5.3 mm., width 2.4-2.7 mm.

Type.—male and one paratype in the Museum of Comparative Zoology, Type No. 23155.

Type locality.—Mountains north of Imias, eastern Oriente Province, Cuba, alt. 3000-4000 ft., collected July 25-28, 1936, by P. J. Darlington.

Remarks.—Of all the species of *Galerucella* described from the West Indies this appears to be the only one without dark elytral markings.

***Blepharida haitiensis*, n. sp.**

Fig. 4.

Oblong oval, 5 mm. long, 2.8 mm. wide, shining, pale yellow brown with dark sutural and semi-vittate lateral markings and 10 broken rows of striate punctation on elytra.

Head pale except for deep brown tips of mandibles, smooth, shining, without interantennal prominences or distinctly marked frontal tubercles; a shallow groove running upward from antennal base to eye; interocular space over half as wide as head. Antennae extending not quite to the middle of the elytra, deepening to darker brown from 4th to apical joints, 3d shorter than 4th joint. Prothorax approximately twice as wide as long, a little convex, arcuate at the sides, smooth, polished, nearly impunctate except for a short row of fine punctures on either side near the anterior margin below the eye; entirely pale yellow brown. Scutellum pale. Elytra with well defined humeri and a slight swelling behind each humerus near the lateral margin; parts of 10 rows of striate punctures none of which is entire, the punctures being particularly deep and distinct near the suture; intervals between not costate; pale yellow brown with a broad sutural vitta not reaching the apex and widening and curving upwards in basal half, also three lateral vittae of different lengths on apical half of each elytron. Body

beneath shining and pale except for the sides of the breast, which are deep brown. Legs pale with darker brown joints, all tibiae with a small spur; claws toothed.

Type.—Female in the Museum of Comparative Zoology, Type No. 23156.

Type locality.—Cape Haitien, Haiti, collected by W. M. Mann.

Remarks.—So far, only two species of *Blepharida* are known to occur in the West Indies, *B. irrorata* Chev. from Cuba, and *B. haitiensis*, of which only a single specimen has been examined by the writer. The striate punctuation usual in the genus is in this species represented only by the broken rows of punctures. There is likewise only a fine row of punctures visible on the prothorax behind the eyes.

***Blepharida irrorata* Chevrolat.**

Figs. 5 and 6.

Revue et Magazin de Zoologie, ser. 2, vol. 16, 1864, p. 182.

Chevrolat described *Blepharida irrorata* as yellow with black antennae and black tibiae and tarsi and with fuscous elytra thickly spotted with white. There appears to be considerable variation in size and coloring in this Cuban species, and some specimens are so unlike the typical as to lead to confusion. The aedeagi in all specimens examined, however, are indistinguishable.

P. J. Darlington has collected a series at Soledad in April, 1936, many of which correspond with the original description in every way but size. Some of his specimens are barely 5 mm. long in contrast with 10 mm. of Chevrolat's description. The antennae in some of the Soledad specimens are pale yellow, in one yellow with a dark apical joint, in others the antennae vary from light brown to black. The elytra likewise vary from pale yellow to deep brown with pale spots. In the darker specimens the breast is deep brown. Specimens collected at Central Jaronu, Tobabo and Baragua are somewhat larger, 6 or 7 mm. long, and have black elytra spotted with white, black breast and pale antennae with a dark apical joint. In a series of 14 in the Academy of Natural Sciences, at Philadelphia, taken 60 miles west of Santiago by H. M. Hiller, 9 have entirely black unspotted elytra, the remainder are finely speckled with yellow. All have pale antennae with a black apical joint and the breast is black. They range from 4.5 to 5.5 mm. long.

***Blepharida multimaculata* Jacoby.**

Described from Atlixco, Tepetlapa, Mexico, and represented by two specimens in the Bowditch collection from Tepetlapa. It is similar in size and markings to the West Indian species,

but the Mexican species has very deep striate punctation and the punctures are in a single and not double line as in *B. irrorata*.

***Disonycha darlingtoni*, n. sp.**

Fig. 2.

Oblong oval, 5 mm. long, shining, pale lemon yellow with entirely black antennae, black tibiae and tarsi and partly black femora, the basal half being pale.

Head shining, smooth, very finely and not thickly punctate, a fovea on either side of vertex near eye; frontal tubercles distinctly marked, interantennal area blunt and little produced; pale yellow except the mandibles, which are piceous. Antennae long, extending half way down elytra, entirely black, 3d joint a little shorter than 4th, which is the longest, remainder nearly equal in length. Prothorax nearly $1\frac{1}{2}$ times as wide as long with arcuate sides; entirely pale, polished, without punctation. Elytra with well-marked humeri, shining, pale, very finely punctate. Body beneath pale, very faintly pubescent; basal half of all the femora pale, the rest of the legs black. Length 5 mm., width 2.5 mm.

Type.—male in the Museum of Comparative Zoology, Type No. 23157.

Type locality.—The south side of Pico Turquino, Oriente Province, Cuba, 3000–5000 ft., collected in June, 1936, by P. J. Darlington.

Remarks.—The description of *Galleruca pallens* from the island of Guadeloupe by Fabricius in 1792 applies in nearly all points to the present species, but Fabricius' species has the antennae pale at the base and has pale femora. *D. antennata* Jac., which occurs in Central America and at the tip of Florida, differs from the Fabrician species in not having black tibiae. *D. darlingtoni* is related to *D. antennata* Jac., but is smaller and more slender than that species and has entirely black antennae, which are noticeably longer, and differently colored legs. The aedeagus is also different.

***Hemilactica fasciata*, n. sp.**

Fig. 3.

Oblong oval, about 2.5 mm. long, shining, reddish brown with a dark blue basal spot on elytra spreading from the lateral margin nearly to the suture and a transverse band across lower half. Elytra costate.

Head shining reddish brown with yellow labrum and brown mandibles; front and occiput coarsely punctate. Antennae extending fully halfway down elytra, 3d joint shorter than 4th, 4th–8th joints long and diminishing slightly in length; basal joint pale yellow brown, rest dark brown. Prothorax $1\frac{1}{2}$ times wider than long with sides nearly straight; traces of an obsolete transverse basal sulcus marked by a depression on either side and one in the middle, also a fovea on either side anterior to the middle; surface finely and sparsely punctate, shining reddish brown. Scutellum reddish brown. Elytra shining, a broad basal spot of

deep blue extending transversely from the margin nearly to the suture and down about a quarter of the length of the elytra, and a fascia of the same color just below the middle covering all but the extreme apex, a costa extending from humerus to apical narrowing and 4 others more or less distinct but not so long on each elytron; between these median costae a trace of obsolete striate punctation. Body beneath reddish brown, legs the same color with the tibiae and tarsi a little deeper brown like the antennae. Length 2.4 mm.; width 1.2 mm.

Type.—male in the Museum of Comparative Zoology, Type No. 23158.

Type locality.—Upper Ovando R., eastern Oriente Province, Cuba, alt. 1000–2000 ft., collected July 17–20, 1936, by P. J. Darlington.

Remarks.—*Hamilactica fasciata* resembles the other species of *Hemilactica* in its reddish brown color and in the general style of its elytral markings. In this case, the spots take the form of two dark bands, one basal, the other covering all but the tip of the apical half. There is a trace of a sulcus at the base of the prothorax and the costation of the elytra is even more marked than in the species already described. The prothorax is longer than in the other species. The aedeagus is somewhat like that of *H. pulchella*.

Paratrikona ovata, n. sp.

Fig. 8.

Ovate and widest a little below elytral humeri, 7 mm. long, above yellowish with large irregularly placed, chestnut brown elytral punctures; head, body and femora deep brown to piceous, tibiae and tarsi golden brown, antennae pale with apical joint dark; a double hump on elytra.

Head not visible from above, black, front declivous, deeply inserted in prothorax, with a deep emargination on the prosternum opposite the eye, thereby forming a sharp tooth on lower side of eye. Antennae pale yellow to penultimate joint, 10th joint slightly darker, apical joint deep brown, 3d joint much thinner and about the length of 2d, 4th long, 5th shorter than 4th or 6th, joints 6–11 thicker but not longer than 4th and covered with short dense hairs. Prothorax not emarginate over head, widest before the middle, basal margin sinuate; disk irregularly bumpy and not very convex, with an explanate hyaline margin in front and on sides. Surface with coarse dense punctures; yellowish or reddish brown, somewhat deeper in coloration than the impunctate portions of the elytra. Scutellum triangular, reddish brown. Elytra with a strongly produced double hump, not lengthened at all into a spine; elytra widest slightly below the shoulder with a forwardly prolonged hyaline margin that extends to the widest part of the prothorax, this margin becoming widest before the middle of the elytra, then gradually narrowing to apex; at shoulder and in the middle of the lateral margin a thickening running into the margin; below the middle, smaller thickenings that extend into margin; punctures very large, deep and except for a sutural row along either side of the suture, very irregularly placed;

the basal color of the elytra pale yellow but the punctures a deep chestnut brown, often with a brownish area about them. Body beneath and femora shining piceous with scanty pubescence; tibiae and tarsi pale golden yellow; claws not divergent. Length 7 mm., width 5.6 mm.

Type.—In the Museum of Comparative Zoology, Type No. 23159.

Type locality.—Grande Riviere, Haiti, collected by W. M. Mann.

Remarks.—This species agrees with *Paratrikona*, as defined by Spaeth, in the shorter apical joints of the antennae, the fact that the head is invisible from above, the tooth on the prosternum, the way in which the produced hyaline margin is not greatly narrowed at the shoulders, and in the not divergent claws. It differs, however, in its shape. *Paratrikona*, according to Spaeth, is subtriangular and *Trikona*, ovate. *P. ovata* is midway in shape between *Paratrikona turrifera* (Boh.) and *Trikona humeralis* (Oliv.). It most closely resembles *P. turrifera* (Boh.) but has no spine on the elytra and has less regular and less dense elytral punctation.

SYNONYMY IN THE GENUS PANORPA (MECOPTERA).

By ASHLEY B. GURNEY,

Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

The author (Proc. Ent. Soc. Wash., Vol. 39, No. 8, pp. 222–227, figs. 1–7, 1937) has recently described *Panorpa utahensis*, based upon six specimens the locality labels of which represent three localities in northeastern Utah. *P. venosa* Westwood was also recorded. Because of the unusual nature of a Utah record for the genus *Panorpa*, Dr. F. M. Carpenter requested paratypes of *utahensis* for study and has found that the species must be placed in synonymy. The male of *utahensis* represents *submaculosa* Carpenter and the female *maculosa* Hagen. The author had assumed that the two sexes were of one species and had misinterpreted the published figures of the genitalia of *submaculosa* and *maculosa*. After a comparison of material the above synonymy is clear.

Dr. Carpenter writes that he is skeptical of the accuracy of the records, but Mr. F. C. Harmston, the collector, has reported that he does not believe any error in locality records has occurred. Thus, it may still be possible that three eastern species of *Panorpa* occur in Utah.